ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

COMMUNITY RELATIONS OFFICE

December 4, 2000

Ms. Gene Bernardi
Committee to Minimize Toxic Waste
P. O. Box 5221
Berkeley, CA 94705

Dear Ms. Bernardi:

Attached please find information provided by the University of California - Berkeley, about the Panoramic Hill tree-trimming project. You inquired about this project at a recent Sampling Task Force meeting, and this is the response from the University's Campus Landscape Architect, Jim Horner.

If you have additional questions on this issue, please feel free to contact him at 510-642-7535.

Sincerely,

Terry Powell
Community Relations Coordinator

Attachment (3 pages)

cc: J. Horner
Task Force members

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY
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Transmittal

To: **Terry Powell**
LBNL Comm. Relations

December 1, 2000

- ☐ US Mail - Regular/Express
- ☐ Hand Delivery
- ☐ Other:
- X FAX: **486-4553**
  Number of Pages: 3
- ☐ Original to Follow

From: Jim Horner
Campus Landscape Architect
(510) 642-7535 or jhorner@cp.berkeley.edu

Project Name: **Panoramic Hill Fuels Reduction**
Account: **00C0410**

Transmitted:
- ☐ As requested
- X For your use
- ☐ For your review
- ☐ For your comments
- ☐ For your approval
- ☐ As discussed

Attached please find the following:

Quantity	Date	Revision	Item
1	6-27-98		Isotope Solutions Tritium Analysis

Remarks:

Dear Terry:

As discussed today, Phase 1 of our fuel reduction project successfully removed about 500 trees and pruned up lower limbs on remaining trees to minimize potential flame lengths. The small dimension material was chipped and either spread on site or used as construction bedding under campus trees. The sound wood was shipped to the non-profit "Protect All Life" foundation for use on art projects or milled. We hope to use some logs as vehicle barriers. Neither this phase nor the next two following phases of work will permit any burning on site of slash or logs.

Hope this helps answer your questions.

Regards, Jim

Signature

486. 4257

Isotope Solutions

JUL 24 1998

PLANNING

Tel: 510 527-7237
Fax: 510 528-9421
e-mail: menchaca@mindspring.com

1126 Delaware St., Berkeley California 94702

June 27, 1998

Dr. Dale Sanders, Senior Planner
Physical and Environmental Planning
300 A&E Building, #1382

Dr. Sanders,

Enclosed are the results for tritium analyses of four vegetation samples collected by Isotope Solutions in early June 1998, in support of the FEMA project. As we agreed, the samples were collected from Areas A, C, and E on University of California land under consideration for tree removal, and from a control area at the Berkeley Marina. Representative splits of each sample are being delivered along with this correspondence for your possible further action.

Analyses were first performed on water released and formed from total combustion of the plant material from each sample. This method of sample preparation results in water samples that contain all of the hydrogen (and tritium) in the combusted material. The tritium activities of these four samples are indistinguishable from background using routine analytical methods available from contract analytical laboratories. The analytical results for the combustions of these samples are shown on data report SDG 8081 (attached) and are summarized, below:

Analytical Results for Total Combustion

Sample Locality	Sample ID	Tritium Activity
A	8081-001	< 5.9 pCi/gram
C	8081-002	< 4.8 pCi/gram
E	8081-003	< 5.2 pCi/gram
Marina	8081-004	< 3.6 pCi/gram

To determine whether tritium is present in the plants at lower levels, it was necessary to prepare larger water samples for counting. To this end, the water fraction from each of the samples, representing most of the weight of each sample, was recovered by azeotropic distillation. The analytical results for these samples are presented on data report SDG 8100, page 1 (attached) and are shown on the table, below:

Analytical Results for Water Fraction

Sample Locality	Sample ID	Tritium Activity
A	8100-001	< 222 pCi/Liter
C	8100-002	< 195 pCi/Liter
E	8100-003	< 200 pCi/Liter
Marina	8100-004	< 203 pCi/Liter

As with the total combustions, no tritium was detected above the minimum detectable activity (MDA) for the method.

All sampling and analyses were performed in accordance with our quality assurance program. Data report SDG 8100 (page 2) shows that distillation and analysis of a spiked standard yielded acceptable recovery (104%), indicating that tritium, if present at levels higher than MDA, would have been recovered from the samples. In addition, data report SDG 8100 (page 2) shows that water sample spiked with a tritium activity of 160 pCi/sample was measurable with good precision, implying that tritium, if present at levels above the MDAs shown in the above tables, would have been detectable using the counting methods employed by the laboratory. Additional analysis of an unspiked blank shows no detectable tritium, implying that no significant tritium contamination was encountered during the analyses.

The above analytical data for the four plant samples imply the following:

- All of the analyzed plants have tritium activities well below the current EPA Maximum Contaminant Level (MCL = 20,000 pCi/Liter) established for drinking water.
- All of the extractable water from the analyzed plants has a tritium activity of less than ~200 pCi/Liter, which is ~1/100 of the MCL for drinking water.
- It is possible that the analyzed plants do not contain tritium from local University operations. Local background is expected to be in the range of 10 pCi/Liter to 25 pCi/Liter, based on recent data for precipitation elsewhere on the West Coast of the United States.
- There is no evidence that the analyzed material contains tritium at levels that would pose a health hazard to workers or the public. We were not able to detect tritium activity using conventional sample preparation and counting techniques.

If you wish to perform further research to determine the actual tritium activities of these samples, they will require special treatment and will need to be counted at a very low level counting facility. These methods, usually employed in dating studies of environmental waters, are time consuming and more expensive than the methods used in standard environmental investigations.

Also enclosed with this package is our invoice for the work performed. We would appreciate expedited payment, if possible, to allow us to recover our analytical costs. If you have any questions or require any additional information regarding this project, please don't hesitate to call us at 510-527-7237. It has been a pleasure working with you and we hope we can be of further service in the future.

Sincerely,

Dr. Leticia B. Menchaca
Owner, Isotope Solutions

Enclosures: Data report No: SDG 8081 (1 page)
Data Report No: SDG 8100 (2 pages)
Invoice # IS
Four (4) total plant sample splits

Date: 7-24-98 by: [illegible]
Project No.:
File Name: FEMA-Fire Mitigation Study
cc: file